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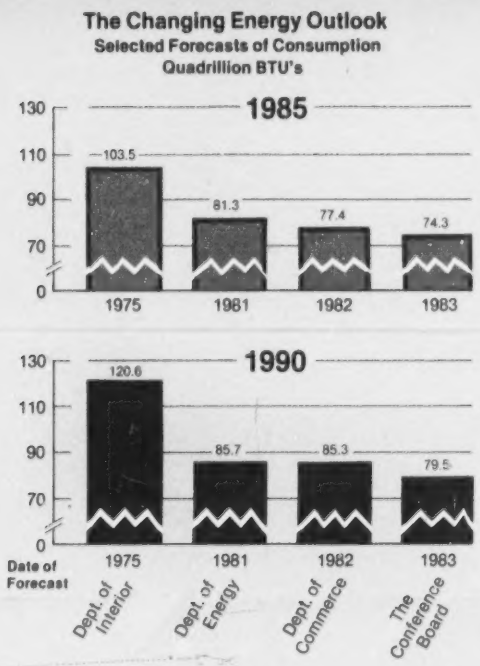
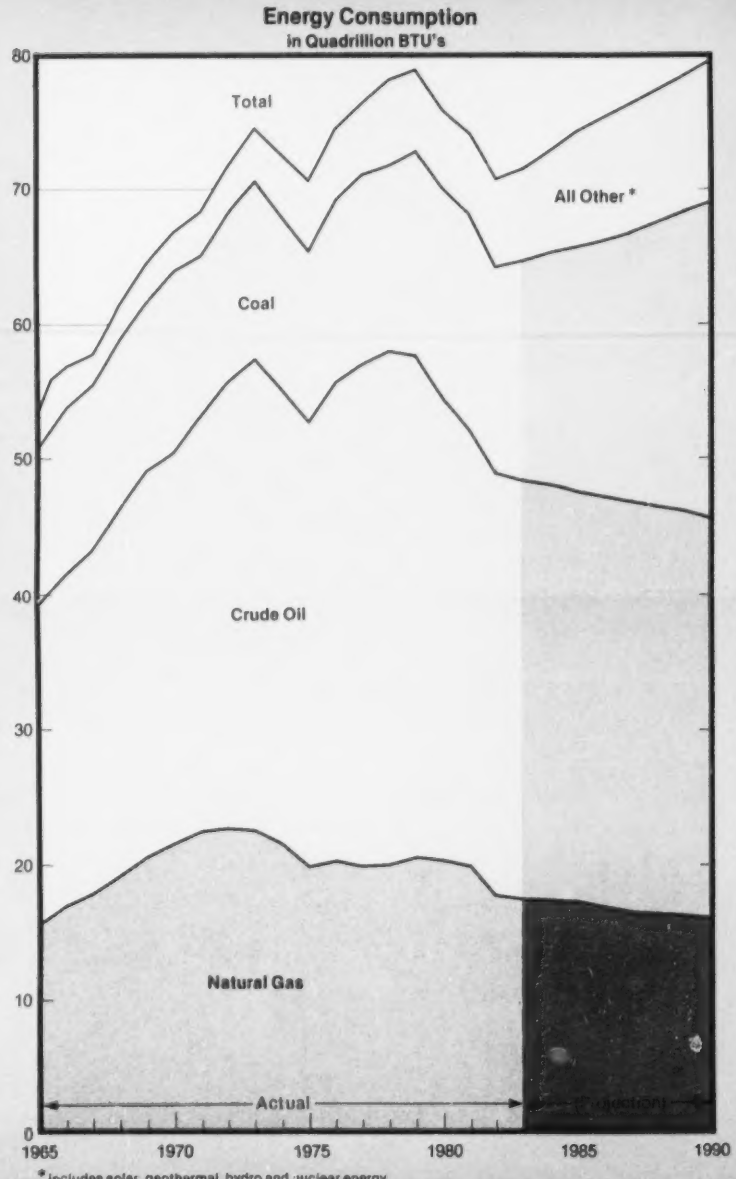
The Conference Board

Energy: Consumption Trends and Outlook

Economic Road Maps
Nos. 1946 - 1947
March, 1983

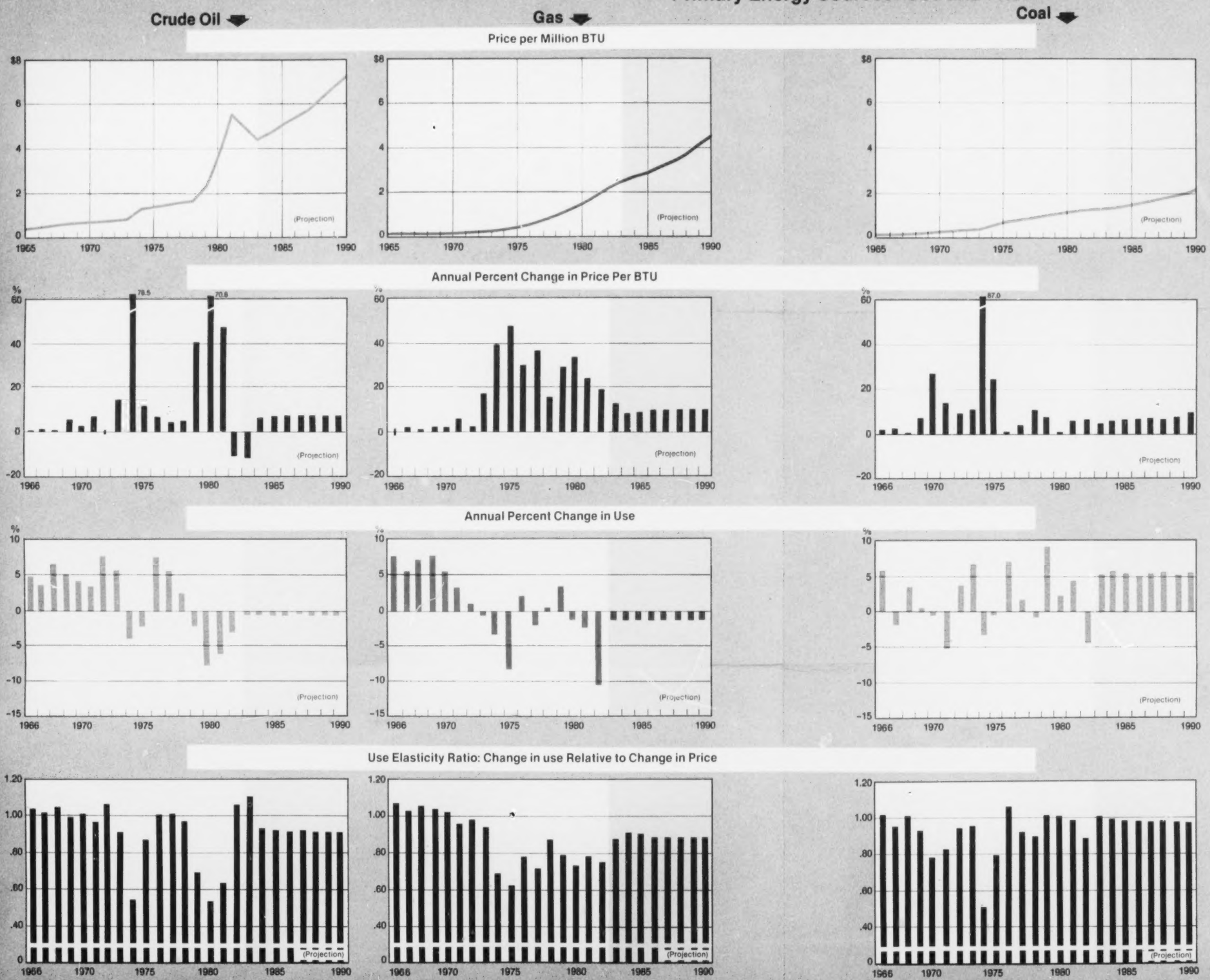
The outlook for energy demand has changed dramatically in the last decade. In the early 1970's, it was widely assumed that demand was relatively inelastic. Put another way, it was felt that even a large increase in energy price would result in only a small decline in demand. A decade's worth of experience, however, has shown substantial cuts in demand in response to successive steep price increases for petroleum and natural gas. These efforts to conserve energy and use it more efficiently mean that energy use is much more price elastic than had been assumed earlier. More recent projections of future demand reflect that fact. Another energy trend has been confirmed by experience in the last decade. Domestic energy demand has been rising more slowly than overall economic activity for many years. That was the case in the 1970's and the safest projection is that this trend will continue in the 1980's.





Energy demand projections have been scaled down progressively in recent years. The outlook data charted here are based on a few simple assumptions and are meant to serve as a current educated guess subject to revision. One set of assumptions—subject to almost immediate, and very probably repeated, revision—concerns price. The two latest developments are the drop in the price of imported oil and the scheduled decontrol of natural gas prices. Even taking those changes into account, the price per basic energy unit—BTU (British Thermal Unit, the amount of heat needed to raise one pound of water one degree Fahrenheit)—is lower for coal than for natural gas, which in turn is cheaper than oil. This projection

Primary Energy Sources: Use and Price

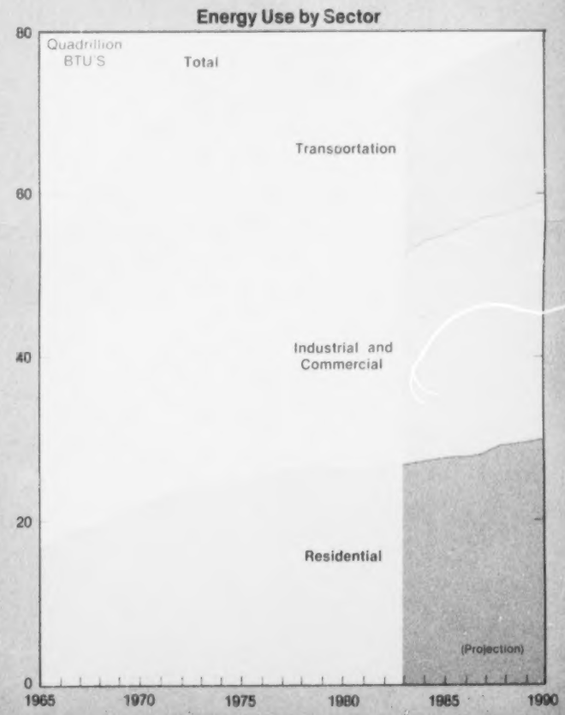


takes into account the drop in oil prices this year and assumes that, beginning in 1984, oil prices will rise slightly faster than the overall consumer price level. It assumes that natural gas prices will rise significantly faster than general prices. Since further changes in relative prices of basic energy sources are in store, continued change in market demand trends can be expected for the remainder of this decade.

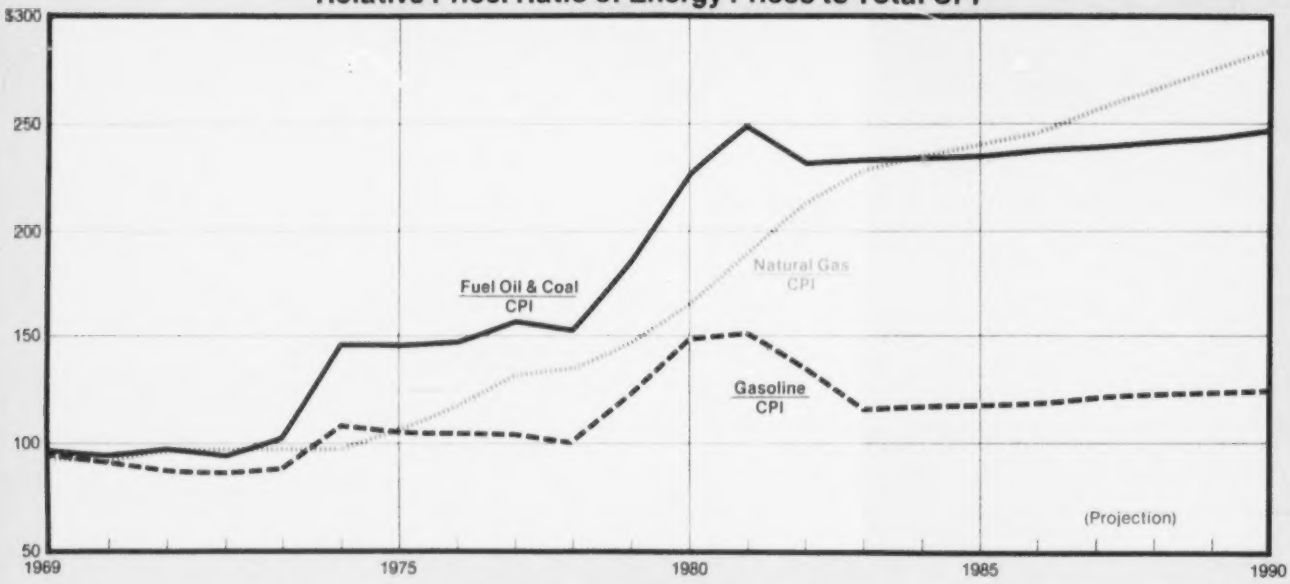
Efforts to use energy more efficiently have been noticeable in the residential and transportation sectors of the economy, but the most pronounced conservation has occurred in the industrial and commercial sector. It is assumed here that those efforts will not be abandoned simply because the price of imported oil has declined recently. In fact, given the fact of some permanent contraction in "smokestack" industries, overall energy requirements for this sector are likely to continue to decline. That assumption is in line with the view that the long-term trend of faster increases in economic activity than in energy consumption will continue. It is assumed here that the energy-to-output ratio will decline by about 2% per year in the 1980's.

One further assumption rounds out the picture. The basic sources of energy are oil, natural gas, and coal. Other sources, such as solar, geothermal, hydro and nuclear power, at present play a relatively minor, though important, role. While it is assumed that the relative share of energy coming from these sources will increase somewhat in the 1980's, oil, natural gas, and coal will continue to provide most of our energy requirements. This contrasts with an earlier outlook of a much more significant role for the alternative energy sources in the immediate future. Ken Goldstein

Sources: Departments of Commerce, Energy and Labor; The Conference Board.

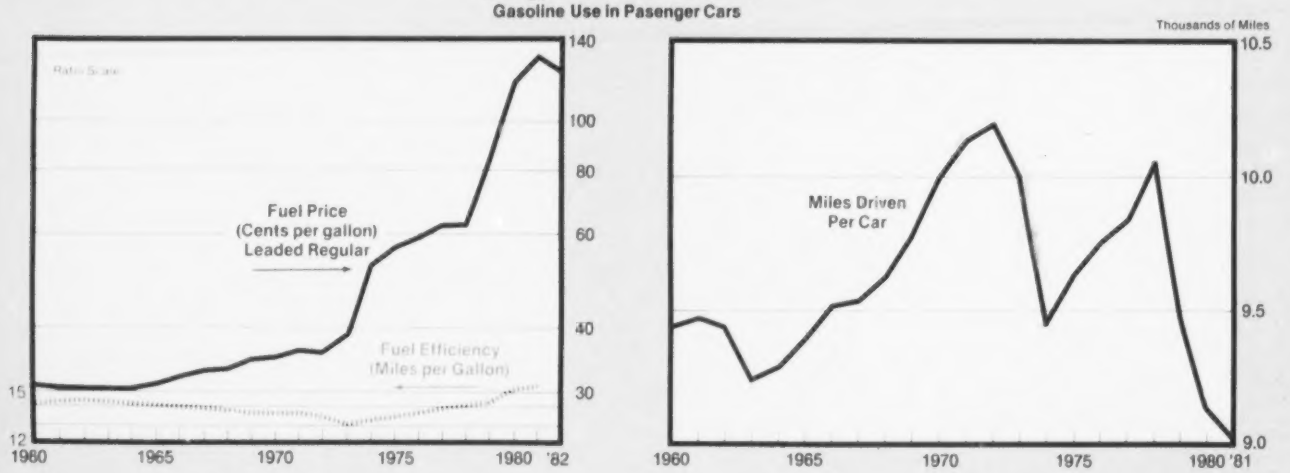


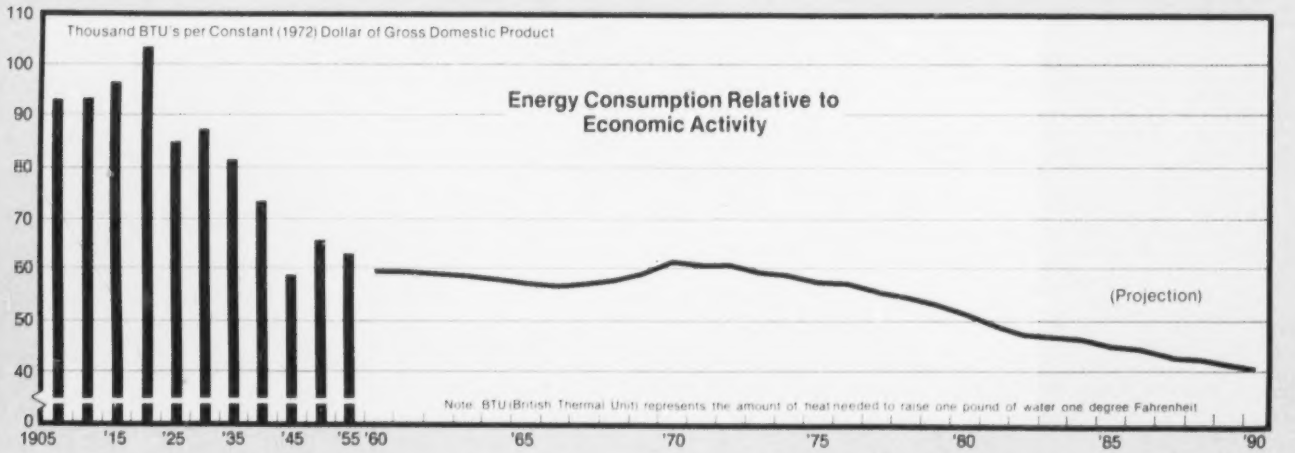
Relative Price: Ratio of Energy Prices to Total CPI



Energy and the Automobile

Gasoline Use in Pasenger Cars





ECONOMIC ROAD MAPS

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Prepared in The Business Conditions Analysis Department—Lora S. Collins, Director
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